NORTHRUP EXHIBIT P

Cont

Results

M. Allen

Notes (signal book of several (not all) results photos with this pen (other (on front) was ~~not~~ permanent ink)

- PCR (HIV - MSP) worked well in integrated-heater devices, gel electrophoresis verified product. Some, but minimal Primer-Dimer (esp due to known fact that device react. in mixture cycled 1-2 times, then at R.T. for ½ hr & prior to 20 cycles due to need to re-solder connections - new rxn mixture (30 µl) was added)

- was able to extract ~ 100% of aqueous phase with 200 µl (set at 30 µl) pipette & load 5-6 wells of electrophoresis channel

(*) → calculate power consumed in todays experiment compare to batteries

Other Discussion

last Tues w/ Ray Manilla Lee (cubes) along w/ Russ Higuchi, Bob Watson, Russ's technician, myself we tried homogeneous detection w/ video CCD over 460 thermal cycles

- pulsed N_2-laser (ILEE Laser company, Switz) was tried

→ See LLNL Book (notebook) for details

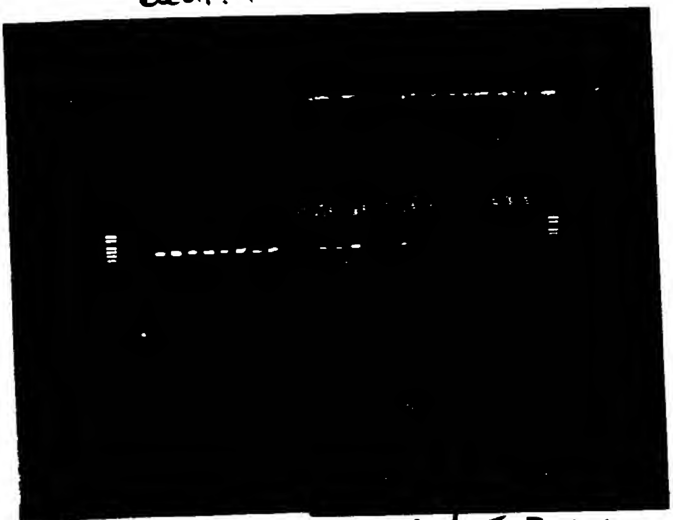
Con't

Results (photos)

Devia PCR results positive

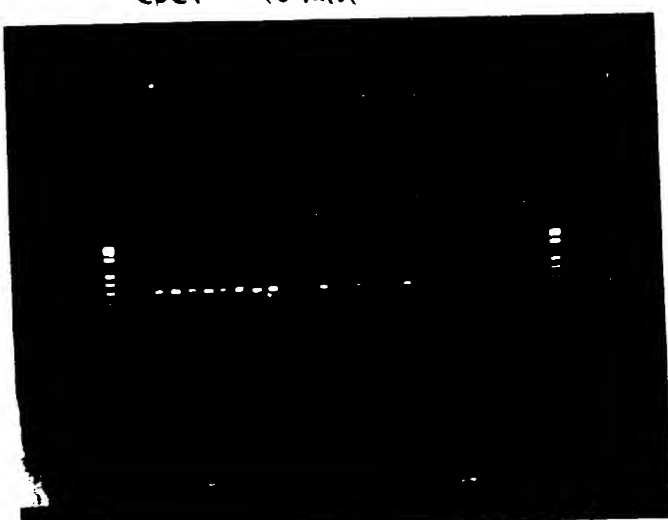
M. All[illegible]

electr. T = 15 min



M. All[illegible] T = 24C 4.6 >200

eleT = 40 min



M. All[illegible] T = 24C 5.2 >200

taped recipe from Watson

Rxn per B. Watson

50 µl 10X Buf		2
50 µl 1mM dNTP		3
50 µl M13		4
10 µl 10×10 = 100 pmoles [illegible]	M. Allen [illegible]	5
10 µl [illegible]		6
2½ µl 10×1.75 U/rxn 12.5; 12.5/5U/µl = 2.5 TAQ		7
327.5 H_2O		9
500		

@ Cetus M. Alla

Try new PCR system
(more Temp forgiving)

142 bp product target on SS M13 from gag-region of HIV

1) Starting target = 10^8 copies in 5 µl
T = 96-55 (works at 88+) ↓ 16-18 cycles is plenty

2) primers

old names:		new names	
SK 145	=	ph 07	10 pM/µl
SK 431	=	ph 08	

Reaction mixture: (500 µl)

50 µl 10 x Buffer w/ mgcl
" 1 mM dntps
" M13 w/ gag region of HIV
10 µl = 10 x 10 = 100 pmoles
ph 07
10 µl (same for) ph 08 ?
2½ µl = 10 x 1.25 M/pml 12.5
Taq
329.5 ddH_2O
500 µl total rxn volume

500.0
-172½
327.5

M. Allen [signature] (cont)

1) re-use voltage (same device) as on Mack 30 (ie 3.17 V at 0.2A ~ 98°c)

Do only 20 cycles

A) Standards
10, 10, 20, 20, 30, 30, 40, 40

~150 μl oil (1-8)

B) Device 30 μl w ~ 90 μl oil

1-minute cycles at 3.17V
20-1 minute cycles (A-E) 0.2A

electrophoresis

well-problem

⊖
⊕

φ std φ φ 1 2 3 4 5 6 7 8 φ φ A B C D D E φ 41 φ φ

1a) Had to re-solder device wire connectors after 2-cycles
fix time ≈ ½ hour rxn was at room temp

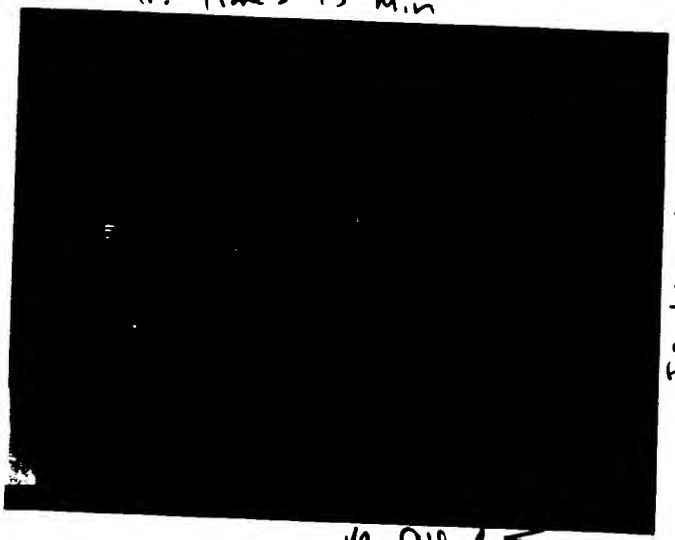
Results - ① formed product in both stds and in wells
② wells (and 1) std had less bright primer-Dimers
③ device provided ~6-5 μl, gel

See next 2 pages:

Cont results (photos)

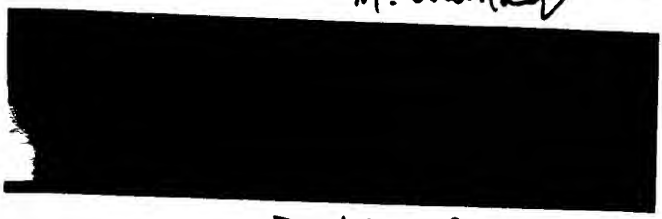
M. Allen

Electr. Time = 15 min



T = 1 sec 5.6 3200

M. Allen



T = 1 sec 5.6 3200

#1 Loaned to Mila Ching